IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A method for splicing two optical waveguide sections, each having a core surrounded by a cladding, wherein at least one of the optical waveguide sections has an outer diameter greater than 400 micrometers (um), comprising:

aligning respective cores at distal ends of the two optical waveguide sections; and

fusing the distal ends of the optical waveguide sections by exposure to at least two separate laser beams.

2. (Original) The method of claim 1, wherein the two optical waveguide sections have at least one different cross-sectional dimension.

3. (Original) The method of claim 1, further comprising moving the distal ends of the optical waveguide sections relative to each other during the fusing.

4. (Original) The method of claim 1, wherein aligning the distal ends of the optical waveguide sections comprises:

taking a measurement of optical power transmitted through a coupling of the distal ends of the optical waveguide sections.

5. (Original) The method of claim 4, wherein taking a measurement of optical power transmitted through the coupling of the distal ends of the optical waveguide sections comprises:

transmitting light through one of the optical waveguide sections; and

measuring the optical power of light reflected from one or more gratings in the other optical waveguide section.

6. (Original) The method of claim 1, further comprising generating the at least two separate laser beams from a single laser beam.

7. (Original) The method of claim 1, wherein fusing the distal ends of the optical waveguide sections comprises varying the power of the at least two separate laser beams during the fusing.

8. (Original) The method of claim 1, wherein fusing the distal ends of the optical waveguide sections comprises operating a shutter device to intermittently expose the distal ends to the at least two separate laser beams.

9. (Original) The method of claim 1, wherein moving the distal ends of the optical waveguide relative to each other during the fusing comprises:

moving at least one distal end closer to the other distal end during one portion of the fusing; and

moving the at least one distal end away from the other distal end during another portion of the fusing.

10. (Original) The method of claim 1, further comprising polishing the distal ends of the optical waveguide sections prior to the fusing by:

setting the power of the at least two separate laser beams to a level lower than that used during the fusing; and

exposing the distal ends to the at least two separate laser beams at the lower power level.

11. (Original) The method of claim 1, further comprising providing a curvature on the distal ends of the optical waveguide sections.

12. (Original) The method of claim 1, wherein dimensions of the at least two separate laser beams are selected to provide uniform heating to distal ends of optical waveguide sections having outer diameters greater than 400um.

13. (Currently Amended) A method for splicing together two optical waveguide sections, <u>each having a core surrounded by a cladding,</u> comprising:

a) aligning <u>respective cores at</u> distal ends of the two optical waveguide sections;

b) providing at least two laser beams for heating the optical waveguide sections;

c) adjusting a power level of the at least two laser beams; and

d) exposing the distal ends of the optical waveguide sections to the at least two laser beams.

14. (Original) The method of claim 13, wherein a cross-sectional dimension of at least one of the optical waveguide sections is greater than 400um.

15. (Original) The method of claim 13, wherein the two optical waveguide sections have different cross-sectional dimensions.

16. (Original) The method of claim 13, further comprising repeating steps c) and d) until the distal ends are fully fused.

17. (Original) The method of claim 16, further comprising determining the distal ends are fully fused by monitoring a heat zone including coupled portions of the two distal ends.

18. (Original) The method of claim 13, wherein providing at least two laser beams for heating the optical waveguide sections comprises splitting a beam from a single source laser.

19. (Original) The method of claim 13, wherein exposing the distal ends of the optical waveguide sections to the at least two laser beams comprises operating a shutter device.

20. (Original) The method of claim 13, further comprising taking a measurement of optical power through the distal ends for use in calculating optical loss therethrough.

21. (Currently Amended) A system for fusing first and second optical waveguide sections together, each optical waveguide section having a core surrounded by a cladding, comprising:

at least one source laser to provide at least one laser beam;

first and second stages to hold the first and second optical waveguides, respectively, wherein at least one of the first and second stages is movable to provide relative motion between the first and second optical waveguides while holding portions

of the first and second optical waveguides to be fused within a fusion splice region while aligning their respective cores; and

a beam delivery arrangement to deliver at least two laser beams to different locations of the fusion splice region, wherein the at least two laser beams are generated from the at least one laser beam provided by the at least one source;

wherein at least one of the stages is capable of holding an optical waveguide having a cross-sectional dimension greater than 400 um.

22. (Canceled)

23. (Original) The system of claim 21, wherein the first and second stages are capable of holding first and second optical waveguides having different cross-sectional dimensions.

24. (Original) The system of claim 21, wherein the at least one source laser comprises at least two source lasers.

25. (Original) The system of claim 21, wherein the beam delivery arrangement comprises at least one beam splitter to generate the at least two laser beams from a single laser beam provided by the source laser.

26. (Original) The system of claim 21, wherein at least one of the first and second stages is coupled with a lathe capable of providing rotational motion thereto.

27. (Original) The system of claim 21, further comprising:

a light source for transmitting light through the first optical waveguide section to the second optical waveguide section;

a detector coupled with the second optical waveguide section; and

optical signal processing for measuring a difference in the light transmitted through the first optical waveguide section and the light detected by the detector.

28. (Original) The system of claim 21, further comprising:

a light source for transmitting light through the first optical waveguide section to the second optical waveguide section;

one or more reflective gratings formed in an optical waveguide coupled with the second optical waveguide section; and

optical signal processing for measuring light transmitted from the light source and reflected from the one or more reflective gratings.

29. (Original) The system of claim 21, further comprising a reference laser to provide a visible reference laser beam for use in aligning the first and second optical waveguide sections in the fusion splice region.

30. (Original) The system of claim 29, wherein at least a portion of the beam delivery arrangement splits the visible reference laser beam into at least two visible reference laser beams delivered to different locations of the fusion splice region.